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NATIONAL COMMUNICATIONS FROM PARTIES INCLUDED IN ANNEX I TO THE CONVENTION: GREENHOUSE GAS INVENTORY DATA FROM 1990 TO 1998

Basic inventory data for Annex I Parties, 1990-1998

Note by the secretariat

GE.00-63855

I. INTRODUCTION

A. Mandate

1. The Subsidiary Body for Implementation (SBI), at the first part of its thirteenth session considered the information on national greenhouse gas inventory data reported by Annex I Parties for 1990-1998 and compiled in document FCCC/SBI/2000/11. To assist in the consideration of this information, the SBI requested the secretariat (FCCC/SBI/2000/10, para.31), to prepare for consideration at its resumed thirteenth session, a document containing graphical and tabular presentations of the information contained in the above-mentioned document.

B. Scope of the note

2. The present note provides graphs and data of a summary nature for total aggregate emissions of all greenhouse gases. Information on hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexofluoride (SF_6) and emissions from land-use change and forestry is provided separately. In some instances, the graphs are accompanied by data or text for greater clarity.

II. PRESENTATION OF DATA

3. The graphs and data below are based on information received from 38 Annex I Parties annual greenhouse gas (GHG) emission inventories or national communications. The information is presented for the years 1990-1998 in terms of trends and for 1998 in terms of levels of emissions. Document FCCC/SBI/2000/11 contains the data for each individual Annex I Party and information on the sources of the data.

4. The year 1998 is the latest for which most Parties have reported data. However, for the following Parties the latest year for which data have been reported is:

Iceland: 1995
Japan: 1997
Liechtenstein: 1990
Luxembourg: 1995
Romania: 1994
Russian Federation: 1996
Slovenia: 1990

5. For these Parties, with the exception of Liechtenstein and Slovenia, the data for the abo years are used in this document in lieu of 1998 data. In instances where information is present for years other than 1990 or in comparison to 1990, Liechtenstein and Slovenia have been excluded.

6. In several graphs aggregate emissions are presented. To the extent possible, aggregate emissions consist of CO_2 (excluding emissions and removals from LUCF), CH_4, N_2O, HFCs, PFCs and SF_6. For reasons of comparability, the secretariat used IPCC 1995 global warming potentials to present information in terms of CO_2 equivalents. Information on the availability data on a gas-by-gas basis for individual Annex I Parties is provided in document FCCC/SBI/2000/11.

The following chemical symbols and abbreviations are used:

CH_4	methane
CO_2	carbon dioxide
N_2O	nitrous oxide
HFCs	hydrofluorocarbons
PFCs	perfluorocarbons
SF_6	sulphur hexafluoride

The following unit of mass is used:

Gg	gigagram (10^9 grams)

The following other abbreviations have been used:

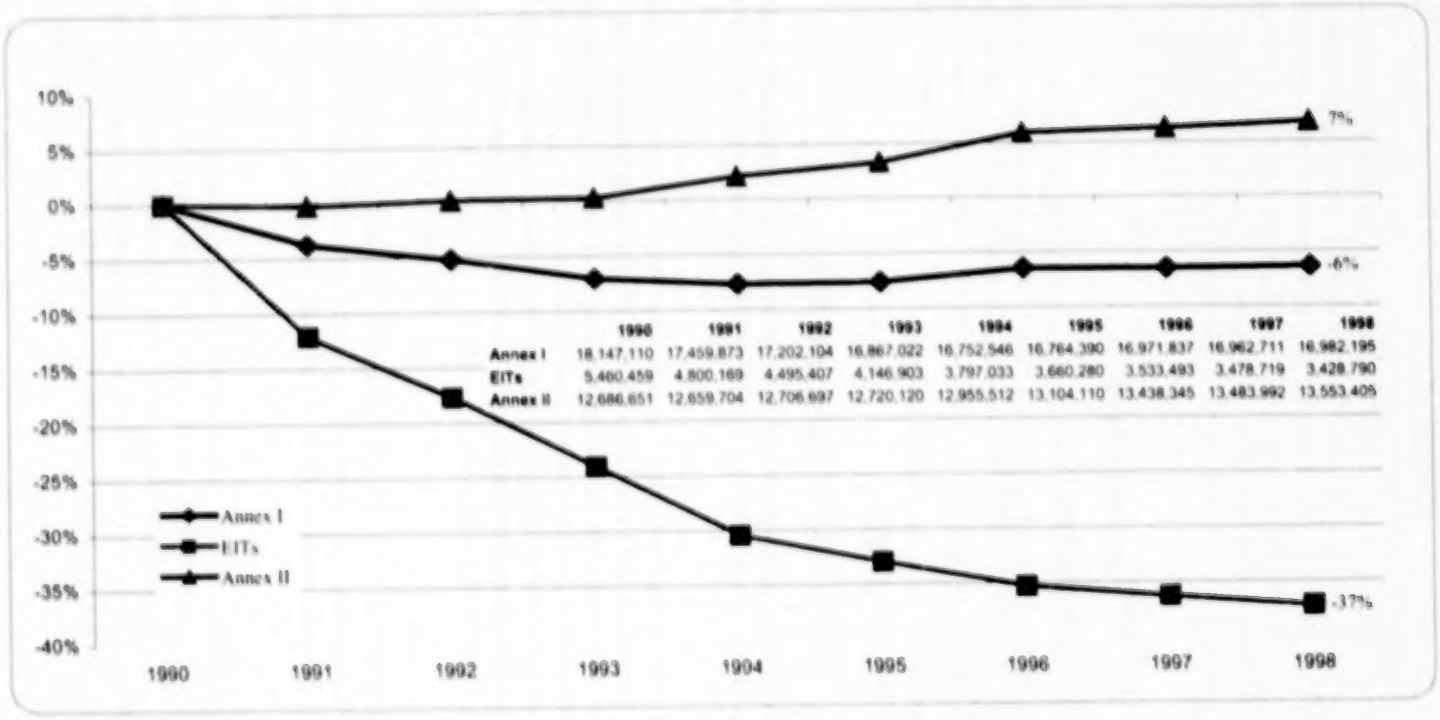
EITs	Parties with economies in transition
GHG	greenhouse gas
GWP	global warming potential
IPCC	Intergovernmental Panel on Climate Change
LUCF	land-use change and forestry

III. GRAPHS AND TABLES

7. The majority of graphs and tables presented in this note are self-explanatory. In some of the graphs indicating percentage change, tables with values in gigagrams were added for completeness and clarity.

8. In figures 4 and 5, data on the contribution of individual Annex I Parties to the increase or decrease in total aggregate GHG emissions in the period 1990-1998 were calculated as follows. For those Parties that reported an increase or decrease in emissions, the corresponding amounts of increase or decrease were added and the contribution of each Party to the increase or decrease was calculated as a percentage of the total increase or decrease. The number thus obtained indicates the share of a given Party in the overall increase or decrease of GHG emissions of those Annex I Parties as a whole.

Figure 1. Trends in GHG emissions, 1990-1998, percentage change relative to 1990 (Gg of CO_2 equivalent)



	1990	1991	1992	1993	1994	1995	1996	1997	1998
Annex I	18,147,110	17,459,873	17,202,104	16,867,022	16,752,546	16,764,390	16,971,837	16,962,711	16,982,195
EITs	5,460,459	4,800,169	4,495,407	4,146,903	3,797,033	3,660,280	3,533,493	3,478,719	3,428,790
Annex II	12,686,651	12,659,704	12,706,697	12,720,120	12,955,512	13,104,110	13,438,345	13,483,992	13,553,405

The table contains estimates of the total aggregate emissions for all greenhouse gases in Gg of CO_2 equivalent (1995 GWPs).

Figure 2. Total aggregate GHG emissions of individual Annex I Parties in CO_2 equivalent, 1990 and 1998 (Gg)

The European Community as a whole is included in this figure, as well as each of its individual member States.

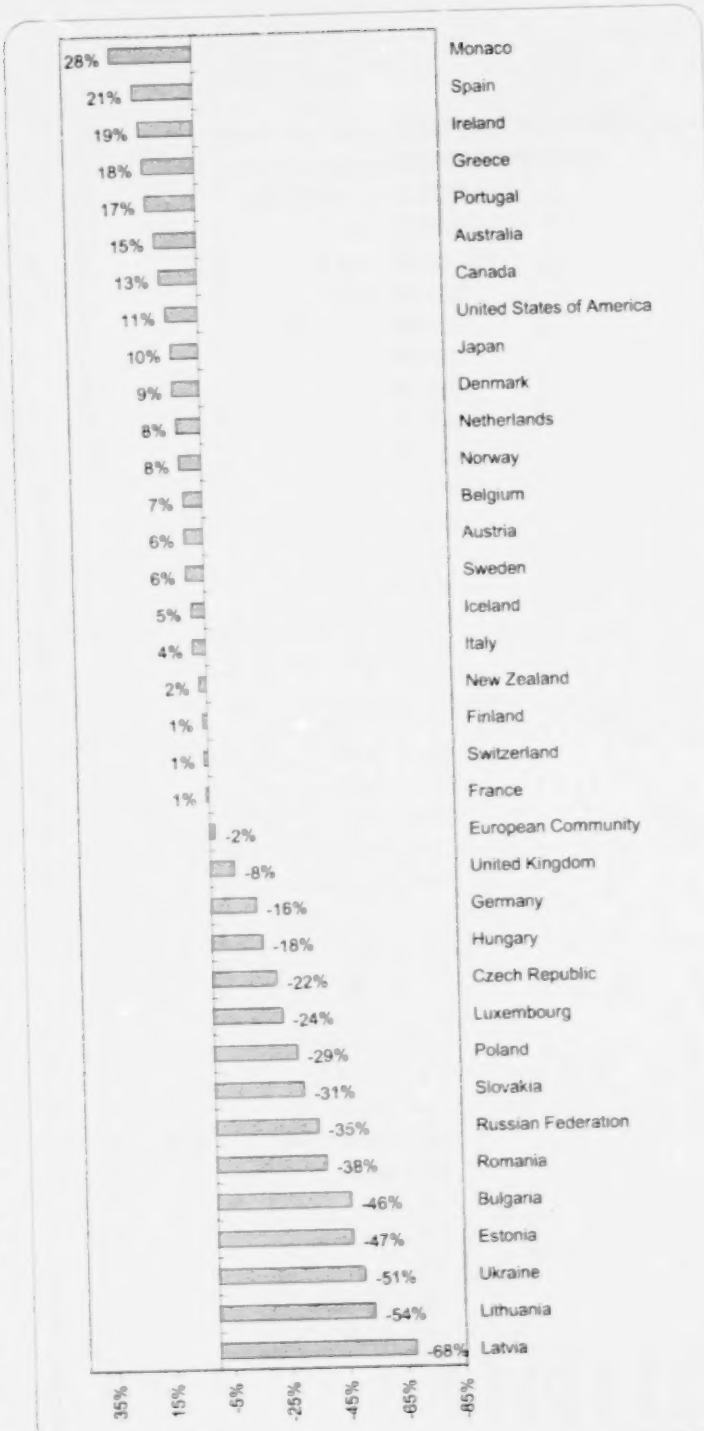


Figure 3. Total aggregate GHG emissions of individual Annex I Partys in CO_2 equivalent, percentage change 1998 relative to 1990

The European Community as a whole is included in this figure, as well as each of its individual member States.

Figure 4. Contribution to decrease in total aggregate GHG emissions from Annex I Parties in the period 1990-1998 (Gg of CO_2 equivalent and percentage change)

	1990	1998
Luxembourg	13,448	10,223
Hungary	101,633	83,677
Estonia	40,719	21,756
Slovakia	76,304	52,818
Latvia	35,669	11,504
Lithuania	51,548	23,851
Czech Republic	189,837	147,777
United Kingdom	741,489	679,850
Bulgaria	157,090	84,317
Romania	264,879	164,026
Poland	564,286	402,477
Germany	1,208,807	1,019,745
Ukraine	919,220	454,934
Russian Federation	3,040,062	1,962,441

Figure 5. Contribution to increase in total aggregate GHG emissions from Annex I Parties in the period 1990-1998 (Gg of CO_2 equivalent and percentage change)

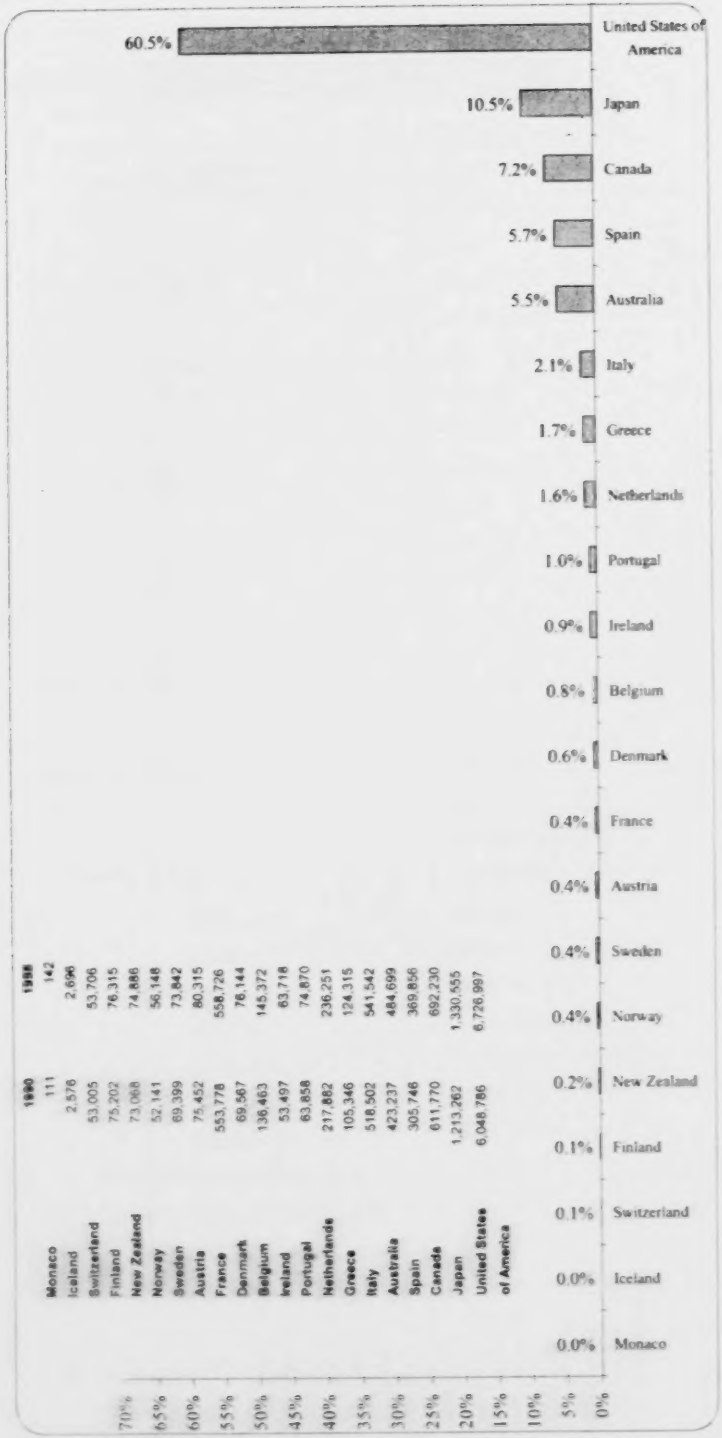
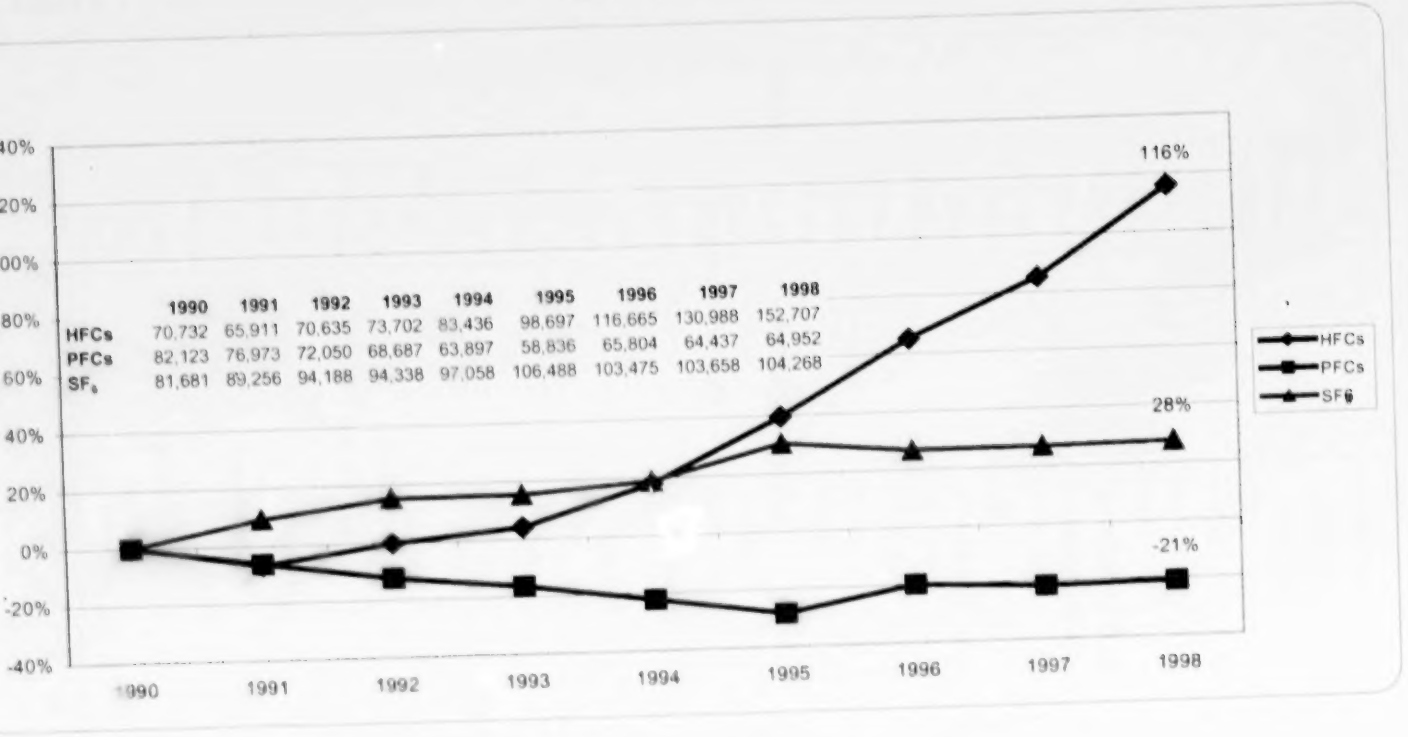
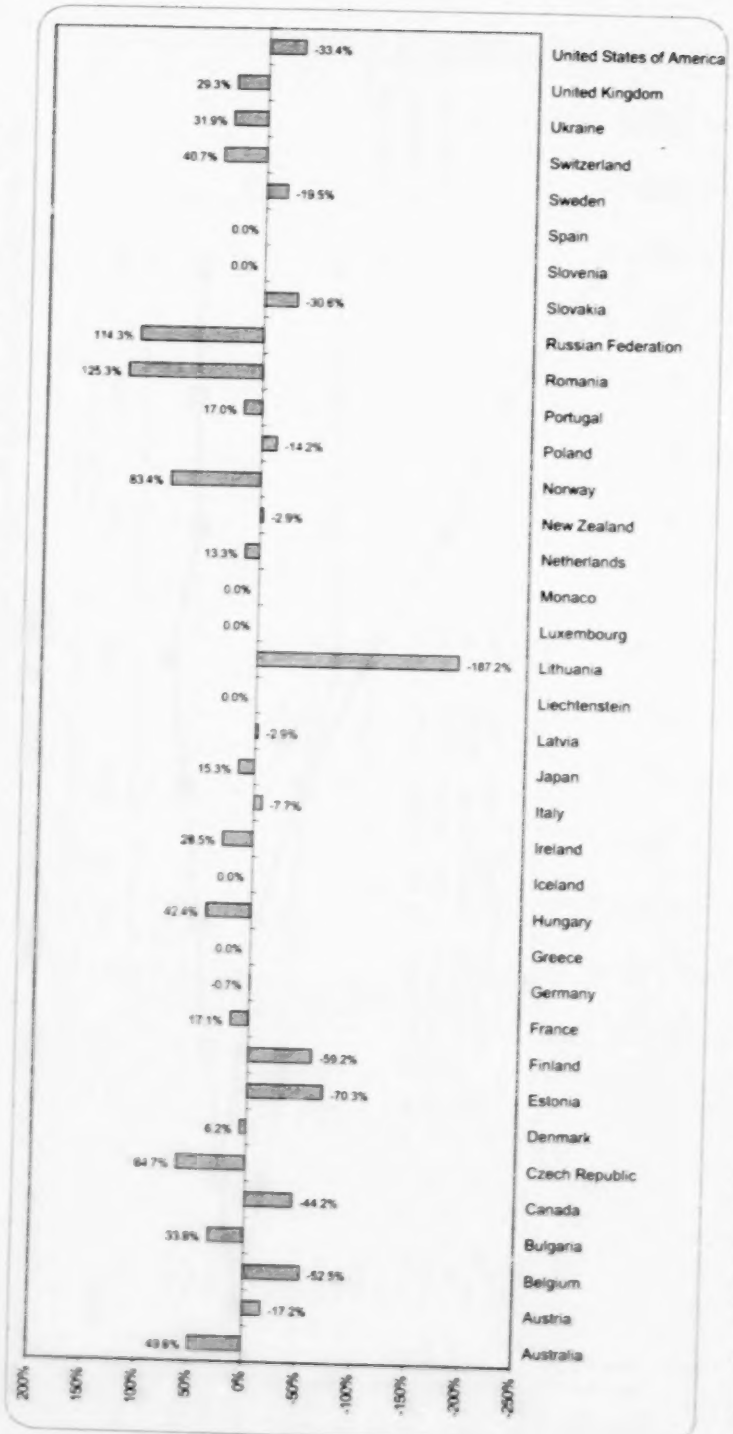


Figure 6. Trends in Annex I Party HFC, PFC and SF_6 emissions, 1990-1998, percentage change relative to 1990, and Gg of CO_2 equivalent



	1990	1991	1992	1993	1994	1995	1996	1997	1998
HFCs	70,732	65,911	70,635	73,702	83,436	98,697	116,665	130,988	152,707
PFCs	82,123	76,973	72,050	68,687	63,897	58,836	65,804	64,437	64,952
SF_6	81,681	89,256	94,188	94,338	97,058	106,488	103,475	103,658	104,268

Figure 7. Percentage change in net CO_2 emissions or removals from land-use change and forestry, 1998 relative to 1990



r Australia and the United Kingdom, positive values correspond to a decrease in net emissions from land-use change and forestry.
r other Annex I Parties, positive values indicate an increase in estimated removals by sinks, and negative values indicate a decrease in estimated removals
sinks.

Figure 8. Net CO_2 emissions or removals from land-use change and forestry as a percentage of total GHG emissions excluding Land-use change and forestry, 1998

Negative values correspond to the share of total greenhouse gas emissions which would have been offset if the LUCF sector were taken into account. Positive values indicate the percentage by which aggregate GHG emissions would have increased if the LUCF sector were taken into account.